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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/732,964	12/11/2003	Masayuki Shinkai	800_119	9252
25191	7590	08/13/2007		
BURR & BROWN PO BOX 7068 SYRACUSE, NY 13261-7068			EXAMINER KERNS, KEVIN P	
			ART UNIT 1725	PAPER NUMBER
			MAIL DATE 08/13/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/732,964

Applicant(s)

SHINKAI ET AL.

Examiner

Kevin P. Kerns

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) 1-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 18-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Double Patenting*

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 18-20, 24, and 28-32 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 4, and 9 of U.S. Patent No. 6,918,530. Although the conflicting claims are not identical, they are not patentably distinct from each other because the methods of producing the different materials bonded members comprising a ceramic base and a metallic member bonded to one another include at least the following process steps: disposing solder material (comprising gold (Au) and a mixture of a pure metal powder) on a bonding surface of the ceramic base including an active metal layer comprising a metal which is active to a ceramic constituting the ceramic base; heating and melting the solder material to form a

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pre-coat layer adhering to the bonding surface of the ceramic base; disposing the metallic member on a surface of the pre-coat layer, with a barrier (insertion) layer (comprising chromium (Cr)) interposed between the metallic member and the ceramic base, the barrier (insertion) layer comprising a material which protects against or suppresses diffusion of a metal constituting the metallic member into the solder material; heating and melting the pre-coat layer (optimally at a temperature between 1070 and 1150 degrees Celsius, or approximately the melting point of the pre-coat layer); and forming a bonded part by solidifying the pre-coat layer to bond the ceramic base and the metallic member to one another. Although the claimed temperature range (1070-1150 degrees Celsius) is not specifically disclosed in the claims of US 6,918,530, one of ordinary skill in the art would have recognized the optimum temperature range for melting of the pre-coat layer by routine experimentation, in order to obtain a strong diffusion bond between the ceramic and metallic members.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 18-33 are rejected under 35 U.S.C. 102(b) as being anticipated by Shinkai (US 2002/0038813).

Shinkai discloses a method of producing a different materials bonded member comprising a ceramic base and a metallic member bonded to one another, such that the process includes at least the following process steps: disposing an active metal layer on the surface of the ceramic base; disposing solder material (comprising gold (Au) and a mixture of a pure metal powder) on a bonding surface of the ceramic base including an active metal layer comprising a metal which is active to a ceramic constituting the ceramic base; heating and melting the solder material to form a pre-coat layer (bonding layer) adhering to the bonding surface of the ceramic base; disposing the metallic member on a surface of the pre-coat layer, with a barrier layer (comprising chromium (Cr)) interposed between the metallic member and the ceramic base, the barrier layer comprising a material which protects against or suppresses diffusion of a metal constituting the metallic member into the solder material; heating and melting the pre-coat layer (at a temperature between 1070 and 1150 degrees Celsius, or approximately the melting point of the pre-coat layer – in this case, approximately 1100 degrees Celsius – see paragraph [0064]; and Tables 1 and 2); and forming a bonded part (paragraphs [0012]-[0021]) by solidifying the pre-coat layer to bond the ceramic base and the metallic member to one another (paragraphs [0012]-[0021], [0039]-[0045], [0064], and [0070]; Tables 1 and 2; Examples 1 and 2; and Figures 1-3).

5. Claims 18-33 are rejected under 35 U.S.C. 102(e) as being anticipated by Shinkai et al. (US 6,918,530).

Shinkai et al. disclose a method of producing a different materials bonded member comprising a ceramic base and a metallic member bonded to one another, such that the process includes at least the following process steps: disposing an active metal layer on the surface of the ceramic base; disposing solder material (comprising gold (Au) and a mixture of a pure metal powder) on a bonding surface of the ceramic base including an active metal layer comprising a metal which is active to a ceramic constituting the ceramic base; heating and melting the solder material to form a pre-coat layer adhering to the bonding surface of the ceramic base; disposing the metallic member on a surface of the pre-coat layer, with a barrier (insertion) layer (comprising chromium (Cr)) interposed between the metallic member and the ceramic base, the barrier (insertion) layer comprising a material which protects against or suppresses diffusion of a metal constituting the metallic member into the solder material; heating and melting the pre-coat layer (optimally at a temperature between 1070 and 1150 degrees Celsius, or approximately the melting point of the pre-coat layer); and forming a bonded part by solidifying the pre-coat layer to bond the ceramic base and the metallic member to one another (column 3, line 50 through column 5, line 35; column 8, lines 1-14; column 14, line 15 through column 16, line 10; Examples; and Figures 1-3).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome

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either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

### ***Response to Arguments***

6. The examiner acknowledges the applicants' response received by the USPTO on August 15, 2006. Upon further review, new references have been applied as double patenting and 35 USC 102(b)/(e) rejections (see above sections 2 and 4). Claims 1-17 remain withdrawn from consideration as being drawn to non-elected inventions. Claims 18-33 are currently under consideration in the application.

7. Applicants' arguments with respect to the previously rejected claims have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin P. Kerns whose telephone number is (571) 272-1178. The examiner can normally be reached on Monday-Friday from 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jonathan Johnson can be reached on (571) 272-1177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kevin P. Kerns *Kevin Kerns 8/8/07*  
Primary Examiner  
Art Unit 1725

*KPK*  
kpk  
August 8, 2007